

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 2, 4-8, and 10-21 are currently pending, with Claims 11-20 being withdrawn as directed to non-elected inventions. Claims 3 and 9 have been canceled without prejudice; Claim 21 has been added; and Claims 1 and 2 have been amended by the present amendment. The changes and additions to the claims are supported by the originally filed specification and do not add new matter.

In the outstanding Office Action, the drawings were objected to under 37 C.F.R. § 1.83(a) regarding the pulse Tz recited in Claim 9; the specification was objected to regarding the Cross-Reference to Related Applications section; Claims 2, 3, and 9 were rejected under 35 U.S.C. § 112, second paragraph, regarding various limitations; Claims 1-10 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; Claims 1-3, 7, and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,866,029 to Chevalier (hereinafter “the ‘029 patent”); Claims 4-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘029 patent in view of U.S. Patent No. 5,222,142 to Kent (hereinafter “the ‘142 patent”); and Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘029 patent.

Applicants respectfully submit that the rejections to the drawings are rendered moot by the present cancellation of Claim 9.

Regarding the objection to the specification, Applicants note that the Cross-Reference to Related Applications section of the specification cites priority to a Japanese patent application. After checking the JPO website, Applicants note that the cited priority application has not issued as a patent. Thus, Applicants respectfully submit that the Cross-

Reference to Related Applications section in the present specification does not need to be updated.

Applicants respectfully submit that the rejections of Claims 2, 3, and 9 under 35 U.S.C. § 112, second paragraph, are rendered moot by the present amendment to Claim 2 and by the present cancellation of Claims 3 and 9.

Applicants respectfully submit that the rejection of Claims 1-10 under 35 U.S.C. § 101 is rendered moot by the present amendment to Claim 1. In this regard, Applicants note that Claim 1 is directed to a random number generator, comprising a counter circuit configured to be supplied with a random signal, a first latch circuit, and a source for the random signal. Further, Claim 1 recites that the first latch circuit is configured to output a first random signal. Initially, Applicants respectfully submit that Claim 1 is directed to one of the four enumerated categories of patentable subject matter, i.e., a machine. Further, Applicants respectfully submit that Claim 1 is not directed to an abstract idea, such as a mathematical algorithm. In this regard, Applicants note that the Office Action on page 4 asserts that Claim 1 is merely directed to a “predetermined mathematical algorithm.” However, Applicants note that the Office Action does not identify this mathematical algorithm. Moreover, Applicants note that even if Claim 1 is construed to be directed to a judicial exception such as an abstract idea or mathematical algorithm, Claim 1 is statutory because it is directed to a practical application because it transforms a physical object to a different state or thing. For example, the claimed latch circuit is transformed based on the input signal from the counter circuit. Further, Applicants respectfully submit that the random number generator produces a useful, concrete, and tangible result. A random number is useful, for example, in the generation of a password, code key generation, generation of ID information, and generation of digital signature information.¹ Thus, such a random number

¹ See page 1 of the specification.

result is specific, substantial, and credible. Further, such a random number result is tangible, not abstract, in that it is an output signal that can be used in the applications mentioned above. Further, the circuit recited in Claim 1 produces a concrete result in that the first latch circuit will always output a random number signal based on the input random signal. Accordingly, for the reasons stated above, Applicants respectfully submit that amended Claim 1 is directed to statutory subject matter.

Amended Claim 1 is directed to a random number generator, comprising: (1) a counter circuit configured to be supplied with a clock signal and a random signal having a property in which a power spectrum intensity of the random signal decreases with increasing frequency, and to provide a count value of the clock signal with respect to a transition of the random signal; (2) a first latch circuit configured to latch the count value with respect to the transition of the random signal, and to output a first random number signal; and (3) a source configured to provide the random signal. The changes to Claim 1 are supported by the originally filed specification and do not add new matter.²

The '029 patent is directed to a random number generator for generating a sequence of binary random numbers whose expected value is controlled by an input digital number. As shown in the '029 figure, the '029 patent discloses a binary counter 20, a latch 21, and a random bits generator 11.

However, Applicants respectfully submit that the '029 patent fails to disclose a source configured to provide a random signal, the random signal having a property in which a power spectrum intensity of the random signal decreases with increasing frequency, as recited in amended Claim 1. In this regard, Applicants note that the Office Action, with regard to original Claim 3, merely relies on the random bits generator 11 disclosed by the '029 patent as reading on this limitation. However, Applicants respectfully submit that the '029 patent is

² See, e.g., original Claims 2 and 3.

silent regarding a source providing a random signal having a property in which a power spectrum intensity of the random signal decreases with increasing frequency, as recited in Claim 1. Rather, the '029 patent merely discloses that the random bits generator 11 "gives at one output 12 a sequence of mutually independent random variables..."³ such that the probability that the random variable equals zero is equal to the probability that the random value equals one, which is equal to one-half. Accordingly, Applicants respectfully submit that the rejection of Claim 1 (and all similarly rejected dependent claims) is rendered moot by the present amendment to Claim 1.

Regarding the rejection of dependent Claims 4-6 under 35 U.S.C. § 103(a), Applicants respectfully submit that the '142 patent fails to remedy the deficiencies of the '029 patent, as discussed above. In particular, Applicants respectfully submit that the '142 patent fails to disclose a source configured to provide a random signal, the random signal having a property in which a power spectrum intensity decreases with increasing frequency, as recited in Claim 1. Accordingly, Applicants respectfully submit that the rejection of dependent Claims 4-6 is rendered moot by the present amendment to Claim 1.

Applicants respectfully submit that the rejection of Claim 10 under 35 U.S.C. § 103 is rendered moot by the present amendment to Claim 1.

The present amendment also presents new Claim 21 for examination on the merits. Claim 21, which depends from Claim 1, clarifies that the first random number signal is independent of the frequency of the random signal. No new matter has been added.

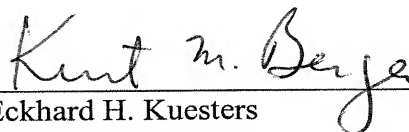
Thus, it is respectfully submitted that independent Claim 1 (and dependent Claims 2 and 4-10) patentably define over any proper combination of the '029 and '142 patents.

³ '029 patent, column 2, lines 15-17.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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